DOCUMENT RESUME

ED 111 205 FL 007 072

AUTHOR Tway, Patricia
TITLE Cognitive Processes and Linguistic Forms of Factory Workers.
PUB DATE 75
NOTE 18p.; Paper presented at the summer meeting of the Linguistic Society of America (37th, Tampa, Florida, July 25-27, 1975)

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS *Cognitive Processes; Concept Formation; Language Styles; Language Variation; *Social Factors; Socioeconomic Influences; *Sociolinguistics; Verbal Communication; *Vocabulary; *Work Environment

ABSTRACT

This paper examines language in a factory setting and focuses on: (1) identical terms which workers use in different contexts, (2) terms that are discarded or changed, (3) different terms that express opposite units in a conceptual category but are labels for identical objects, and (4) terms which represent finer discriminations within conceptual categories. The paper shows that: (1) the manner in which some workers discriminate between categories reveals their position in the production flow, (2) terms are lost if ideas relating to them are lost to the group, and some undergo a psychological regrouping if there is competition between homophonous forms in overlapping work environments, (3) operational links determine the extent to which workers share conceptual categories and linguistic terms referring to those categories, and (4) workers who are closely associated with particular operations are capable of making precise distinctions between conceptual units. The discussion shows that studying language in a work setting contributes to a better understanding of the relationship between social forces, cognitive processes and communicative behavior. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED111205

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Cognitive Processes and Linguistic Forms of Factory Workers[1]

Patricia Tway

New Castle, Pennsylvania

FL007072

Introduction

The following material is part of a study undertaken to explore the characteristics and underlying features of occupational jargon and to discover the part it plays in reflecting the workers' knowledge of their jobs and their attitudes toward them.[2] A china factory was examined as a speech community using participant observations and interviews. The social characteristics of the workers and the background of the factory and community were explored. Sample selection was made by plant seniority and departmental affiliation and resulted in obtaining 151 informants representing three generations of workers from all sections of the plant.[3] A reading elicited the regional dialect of the informants[4] and a free narrative type questionnaire elicited the workers' definitions of their environment.[5] Photographs were used to help establish an informal atmosphere so that careful and casual speech styles could be obtained during the interview.[6] The photographs together with a line drawing and a decal print also helped workers classify materials and processes associated with the factory and with their particular departments.

Factory Operations and Interaction

Manufacturing departments engage in several operations: forming, firing, decorating and packing. The flow of production which begins at the back of the plant accounts for the location of various manufacturing departments. Forming and firing operations take place in the back sections while decorating and packing operations are carried out in the front sections of the plant. A natural barrier, the fire wall, divides the plant between the front and back so that although there is a good deal of worker mobility within the plant, there is more within the two major sections than between them. Thus the communicative behavior of workers reflects both the type of job they hold and their position in the flow of production.

Technical and non-technical terms which are used in the factory refer to concepts, operations and materials that are a part of the factory's production and controls systems. A number of terms are shared by workers who share similar activities and materials. There are also a number of terms which different departments share but which may represent different objects or processes. The particular selections which departments make from a common semantic

field account for the homophonous forms which are used differently by workers in areas that are geographically and operationally separated. Their usage expresses particular concepts associated with their departments and provides an opportunity to study the relationship between labels and objects and the common denominator to which workers respond.

Interaction, daily contact and the tendency to imitate speech patterns are important factors in the acquisition of technical terms. Workers who join a department quickly adopt the forms used by their coworkers, even though the forms may conflict with those of their former work area. Workers, due to the mobility in the plant, are aware of the usage differences, but they use the forms which are accepted in their present work area. Thus lexical variations occur between the front and back of the plant and between a number of departmental zones, due partly to operational links and due partly to geographical proximity.[7]

Focused attention, need to succeed and interest in the job are also important factors in the acquisition of factory terms. Workers quickly learn terms pertaining to operations and materials with which they are involved, and those who are closely associated with

particular operations or materials make precise distinctions between conceptual units.

Similar Terms for Different Operations

Although a number of terms such as kiln and jigger are handed down from previous generations, the manner in which workers are socialized accounts for their interpretation of terms so that some forms which are identical in sound refer to totally different operations or materials in different departments, as illustrated in Chart 1. Batt which means 'a piece of brick' in one department means 'to strike or hit' in another. Grind which means 'to pulverize dry clay' also means 'to smooth bisqueware' depending on the work area, and chum refers to 'a round wooden table that spins' or 'a plaster disk used to reshape and hold cups'.

Lexical items which represent local speech relics may be used by older workers in contexts which are harmonious with older meanings but which may conflict with popular usage in other areas of the plant. The technical term verge which refers to 'the inner edge of a plate in one department is used to refer to 'the top edge' of certain cast pieces in other departments. Older workers in the latter departments extend the meaning to include 'the top of anything' - an archaic use of the term.

Terms That Are Discarded or Changed

Some terms are lost, if ideas relating to them are lost to the group, and some undergo a psychological regrouping if there is competition between forms.[8] At one time the factory used frit in glaze making operations located near firing departments, flint sand in preparatory operations for firing, and flint stones in finishing operations after firing. Frit and flint were often confused and mispronounced by workers in the early days of the factory.[9] Today few of the workers are acquainted with the term frit while many workers use the term flint to refer to the preparatory operations for firing which require flint sand. The term flint stones has been largely replaced by tumbler stones and lucky stones, because as the workers said, 'the stones are used in the tumbler' and 'that's what we called 'em as kids'. The historical development appears to have included the loss of frit with the loss of operations pertaining to it and the psychological regrouping of flint stones to stones as shown by Chart 2.

Opposite Terms for Identical Objects

There are also instances when opposite labels are given to identical items or processes. The terms low cup

and high cup are labels used to identify the same object. Workers who use the label low cup work in firing departments which place the cups in low saggers for firing. Workers who use the label high cup work in the warehouse department, located at the opposite end of the plant, and pack the cups in cartons for shipping. The warehousemen found that the cups could be packed three dozen to a box if they were stacked in high cartons. Although the cups arrived from the back of the plant bearing the term low cups, the workers in the warehouse department at the front of the plant referred to them as high cups. The linguistic behavior of workers in the firing and warehousing departments suggests elipsis on the syntactical level and the following historical development:

The low sagger cups---The low cups.

The high carton for the low cups---The high carton low cups---

The high carton cups---The high cups.

Both departments exhibit similar cognitive processes. The container in which the object fits is the determining factor for labeling the object and not the attributes of the object itself. The operations, kiln placing for firing

and packing for shipping, and the materials used in the operations, a low sagger and a high carton, are the salient features of the cognitive processes. Thus the label which an individual uses will either bear a direct relationship to the object itself or to another object or process with which the labeled object is involved.[10]

Discriminating Terms Within Conceptual Categories[11]

The workers' cognitive processes are also revealed by their ability to make finer distinctions between a series of similar objects. Some terms such as saggers, setters and cranks are generally shared by pottery workers but finer distinctions of types of saggers, setters and cranks are made by those workers who are more closely associated with the operations which call for them. The most precise distinctions are made by workers in the hub area. Geographical proximity can account for the exchange of terms between departments but it is not as important a determiner of shared terminology as operational links.

Chart 3 illustrates the different ways in which workers may relate to a common set of objects associated with their work environment. The relationship between organization of linguistic symbols and proximity to the hub area is evident. The levels represent classifications

which were made by workers in various departments. Level 3 represents departments which are separated geographically and operationally from the hub area. Level 2 identifies departments that are operationally close but geographically separated from the hub area. Level 1 represents departments that are geographically and operationally close to the hub area.[12]

Conclusions

The above material illustrates that studying language in a factory setting provides an unusually good opportunity to observe the relationship between cognitive processes and communicative behavior because specific work areas may be examined in the context of general work environments.

Footnotes

[1]The research for this paper was conducted as a Maxwell Fellow for the Department of Anthropology at Syracuse University.

[2]Occupational jargon is the subject of my doctoral dissertation in which a basic assumption is that linguistic processes and social forces which operate in more general settings also operate in a factory setting. My working definition of occupational jargon is: the combination of regional and local speech forms, individual speech styles, and technical terminology associated with a particular occupation.

[3]The plant seniority of individuals refers to their seniority category: Category I represents 0-8 years; Category II represents 9-19 years; and Category III 20-60 years. Departmental affiliation refers to particular work areas within the factory. The sample represented 12½% of the 1253 men and women employed at the plant.

[4]The reading was a short paragraph which contained words that help to identify a western Pennsylvania speaker. Linguistic forms which could be correlated with

age are discussed more fully in the dissertation and in, "Speech Differences of Factory Worker Age Groups" by P. Twaw appearing in Studies-in Linguistics, 25.

[5]The questionnaire, presented in a conversational manner, focused on work at the factory level, the departmental level and the personal level.

[6]The careful speech forms were elicited by the reading which contained the words, didn't, doing, began, dusk and swollen. The casual speech forms for the same items were observed during the free narrative portion of the interview and during working hours outside the interview. The subject is discussed fully in, "The Careful and Casual Speech of Factory Workers" by P. Twaw in Studia Linguistica.

[7]The subject of dialect boundaries and transitional zones within the factory are discussed fully in, "Workplace Isoglosses: Lexical Variation and Change in a Factory Setting" by P. Twaw in Language in Society, 5.

[8]Winfred Lehmann 1962 discusses,"...the likehood of substitutes for one of the homonyms...' if they are '...used in similar environments...'

[9]Today in the factory there is seldom interference from a sub-stratum language, but there was in the

early days of the pottery. Italian workers who added syllables to common terms such as ink and lump produced forms which were homophonous with other forms that had vastly different meanings. Misinterpretation of the forms resulted in confusion and work lag. For example, ink, which was used in small quantities, pronounced as [Inkə] was confused with Inca, a clay body which was used in vast quantities, and lump, china that was to be discarded, pronounced as [lʌmpə] was confused with lumber which was never discarded. Although mistakes such as those just described do not occur today, management workers who use machines to dictate correspondence often spell words aloud so that secretaries will not confuse them with homophonous forms, for example, inc. is spelled to avoid confusion with ink.

[10] This phenomenon is also illustrated by the typesetter's terms upper case and lower case and their locations in the upper and lower portions of the typesetter's work area.

[11] Charles Frake 1969 discusses the efficiency of cognitive coding and mapping.

[12] Winfred Lehman 1962 disucsses focal areas and Dell Hymes 1974 presents sociolinguistic aspects of frequent interaction of participants.

References

Arensberg, C.M. 1947. Industry and Community. Human Factors. New York: Harper.

Beynon, H., and R.M. Blackburn. 1972. Perceptions of Work. London: Cambridge University Press.

Bright, William. 1966. Sociolinguistics. The Hague: Mouton.

Fishman, Joshua A. 1970. Readings in the Sociology of Language. The Hague: Mouton.

_____. 1971 Sociolinguistics. Massachusetts: Newbury House Publishers.

Frake, Charles. 1969. Cognitive Anthropology, ed. by Stephen Tyler, 30. New York: Holt Rinehart& Winston.

Gumperz, John, and Dell Hymes. 1972. Directions in Sociolinguistics. New York: Holt Rinehart & Winston.

Hall, Edward T. 1966. The Hidden Dimension. New York: Doubleday Anchor.

Hymes, Dell. 1974. Foundations in Sociolinguistics. Philadelphia: University of Pennsylvania Press.

Kurath, Hans. 1939. Handbook of the Linguistic Geography of New England. American Council of Learned Societies. Providence:Brown University.

_____and Ravine I. McDavid, Jr. 1961. The Pronunciation

of English in the Atlantic States. Michigan: The University of Michigan Press.

Labov, William. 1966. The Social Stratification of English in N.Y.C. Washington: Center for Applied Linguistics.

Lehman, Winfred. 1962. HIstorical Linguistics, 133 and 127. New York: Holt, Rinehart & Winston.

Mouzelis, Nicos P. 1967. Organization and Bureaucracy. Chicago: Aldine Publishing Co.

Spargo, John. 1948. Early American Pottery and China. New York:Garden City Publishing Co.

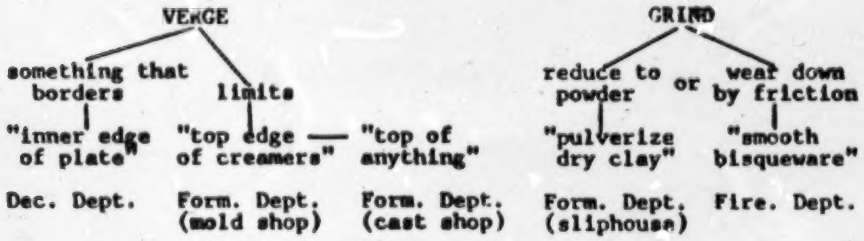
Sturtevant, E.M. 1968. Linguistic Change. Chicago: University of Chicago Press.

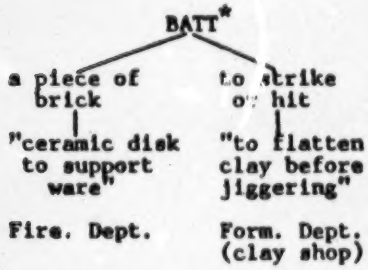
Tway, Patricia. 1974. An Ethnography of Communication in a China Factory: A Case Study of Occupational Jargon. Doctoral dissertation for Syracuse University.

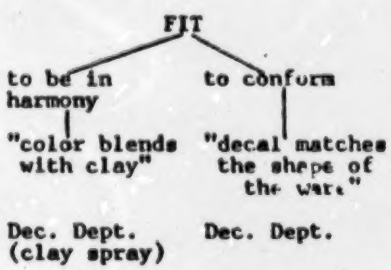
Tyler, Stephen, 1969. Cognitive Anthropology. New York: Holt, Rinehart and Winston.

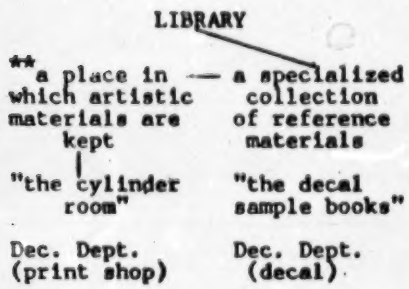
CHART 1

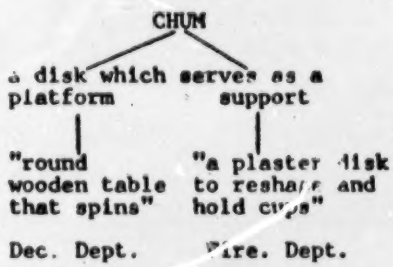
The chart below includes terms, departments which use them, and the manner in which they are used.

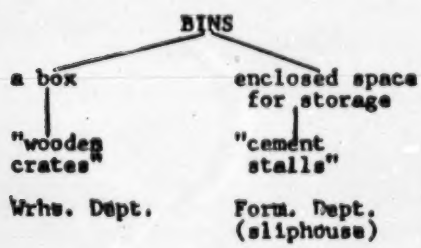


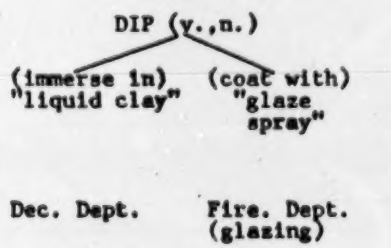





LIBRARY
**a place in which artistic materials are kept
a specialized collection of reference materials
"the cylinder room"
"the decal sample books"
Dec. Dept. (print shop)
Dec. Dept. (decal)







*homophonous forms

**synecdoche

CHART 2

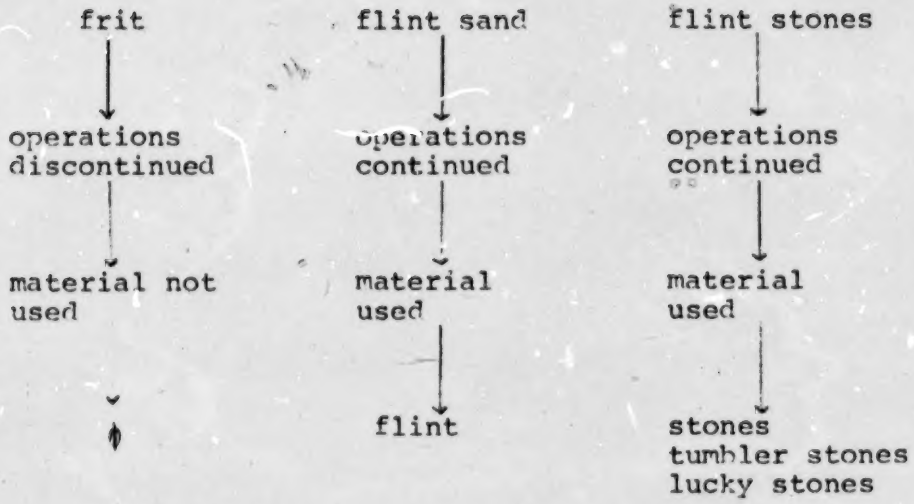
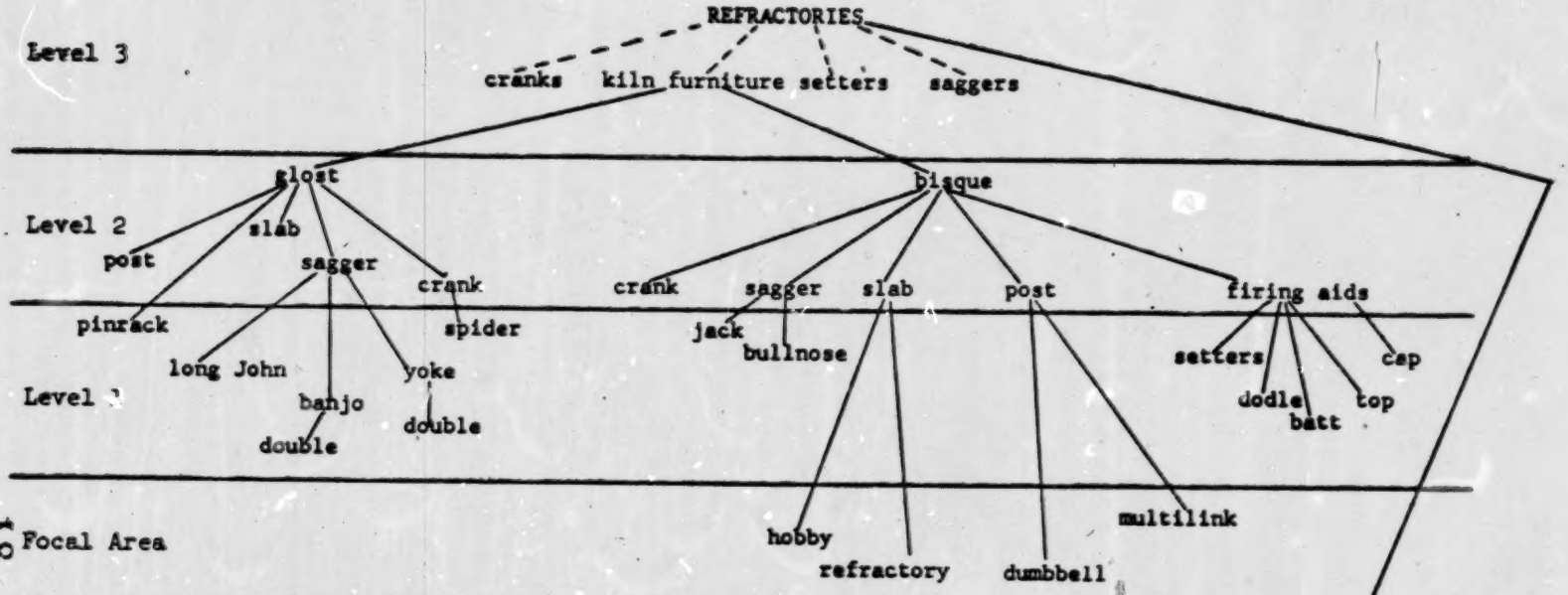

frit
operations discontinued
material not used
flint sand
operations continued
material used
flint
flint stones
operations continued
material used
stones
tumbler stones
lucky stones

CHART 3



Some terms such as "cranks", "kiln furniture", "setters", and "saggers" are generally shared by pottery workers--exemplified by Level 3. Finer distinctions of types of "cranks" and "saggers" together with "posts" and "slabs" as "glost" or "bisque" "kiln furniture" and "firing aids" as "bisque" kiln furniture: are made by workers who are more closely associated geographically with departments that use the objects--exemplified by Level 2. Note that this level of cognition makes no allowances for similar distinctions of "setters". Workers who are associated with the operations which call for certain types of objects make even finer distinctions between types of "glost" and "bisque" "cranks" and "saggers". The most precise usage of terms in relation to objects is in the Focal Area which also recognizes kinds of "tile furniture" and types of "slabs" and "posts". Each level makes finer distinctions than the level above it and each level encompasses the level above it.